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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/317,156	05/24/1999	CHING YU	50100-802	8724

20277 7590 09/11/2002

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EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/317,156

Applicant(s)

YU ET AL.

Examiner

Shick C Hom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/24/99, 8/27/99, 9/20/00.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- ☐ Interview Summary (PTO-413) Paper No(s) _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 17 and 23-24 are objected to because of the following informalities: in claim 17 line 11 insert the "programmable" after the words "plurality of" as in claim 17 line 9, for clarity. In claims 23-24 line 1 insert "slot" before the words "assignment table." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 4-5 and 11-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 4 line 3 which recite "the port" lacks clear antecedent basis because no port have been previously recited in the claims and therefore the limitation is not clearly understood; further it is not clear as to whether it is reciting ---each of said plurality of ports--- of claim 1 line 2. In claim 11 line 4 which recite "a memory" is not clear as to whether it is reciting ---said external memory--- of claim 11 line 2. In claim 13 line 3 which recite "the corresponding memory access slot" lacks clear antecedent basis. } In claim 15 lines 2 and 3 which recite "the sequence" lack clear antecedent basis. } In claim 17 line 10 which recite "the assignment table memory" lacks clear antecedent basis. In claim 18 line 2 which recite "a slot" is not clear as to whether it is reciting ---said slot--- of claim 17 line 10. In claims 19, 21, and 22 lines 1-2 which recite "the programmable information" lacks clear antecedent basis and is not clear as to whether it is reciting --said programmable system settings--- of claim 17 line 9. In claim 19 line 3 which recite "the port" lacks clear antecedent basis and is not clear as to whether it is reciting ---each of said ports--- of claim 17 line 4. In claim 12 line 4 which recite "the memory" lacks clear antecedent basis and is not clear as to whether it is reciting ---said external memory--- or ---the memory--- of claim 11 line 4.

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Claims 5, 14, 16, 18, 20, and 23-25 are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claims 4, 11, and 17, respectively.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 4, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Pei et al.

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Pei et al. disclose all the subject matter now claimed. Note col. 4 lines 8-33 which recite an interface for transmitting ATM cells over a link to a node of an ATM network using a programmable cell transmission scheduler which controls the scheduling of cells for transmission over the link including a scheduling table which is stored in memory, for use by the programmable cell transmission scheduler whereby the scheduling table includes a plurality of lines, each of which contains an index identifying one of a plurality of virtual path connections that may utilize the link and col. 5 lines 3-13 which recite the scheduler using one or more tables to assign traffic of a variety of types into respective cell transmit time slots clearly anticipate the scheduler for selectively assigning memory access slots to ports based on respective programmable information entries as in claims 1, 11, and 17 and the assignment table memory as in claims 2 and 18. Col. 8 line 60 to col. 9 line 4 which recite the cell memory interface including the memory used for storing ATM cells clearly anticipate the second memory for storing data packets and the external memory interface for transferring data packets between the network switch and the second memory as in claim 17. Col. 2 lines 5-39 which recite the user network interface using a single virtual path connection

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(VPC) identifier and various circuits being differentiated as different virtual circuit connections (VCCs) having different VCC identifiers, both internally in the interface whereby and the scheduler maintains a CBR table including a VCC identifier for each circuit subscribing to CBR service in the order that service is scheduled for the respective circuits clearly anticipate the use of a port operation code as in claims 4 and 19.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. This application currently names joint inventors. In

considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3, 6, 8-10, 12, 16-19, 21, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al. as applied to claims 1, 2, 4, and 11 above, and further in view of Daniel et al.

Pei et al. did not teach the use of an external controller for storing the programmable information entries into the table memory as in claims 3 and 17, writing the assignment configuration from the memory to an assignment configuration memory as in claim 12, the use of a continuously repeating sequence based on a sequence of memory access slot assignments as in claims 6, 21, the step of selecting slot assignments based on detected conditions as in claims 10 and 16, the first memory being an EEPROM as in claim 25, the assignment table memory being a RAM as in claims 8, 23, and being a group of registers as in claims 24, 9.

Daniel et al. teach that it is known to provide an ATMCSI/TU in which a programmable CPU tightly coupled to multiple hardware-coprocessors whereby the interface between the CPU and the

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hardware coprocessors is defined by multiple data structures which provide bi-directional control and status signaling between the multiple hardware elements and the CPU as set forth at col. 6 lines 55-61 in the field of digital and multiplex communications for the purpose of freeing the APU from doing repetitive data manipulation tasks, while these tasks are performed by one or more hardware-implemented coprocessors using memory mapped data structures and linked lists of data which clearly anticipate the use of an external controller for storing the programmable information entries into the table memory as in claims 3 and 17 and writing the assignment configuration from the memory to an assignment configuration memory as in claim 12. Col. 5 line 66 to col. 6 line 3 which recite the use of firmware in a specialized enhanced direct memory access module and Fig. 13 which shows the use of RAM clearly anticipate the first memory being an EEPROM as in claim 25, the assignment table memory being a RAM as in claims 8, 23, and being a group of registers as in claims 24, 9. Col. 3 lines 25-39 which recite that differing classes of service are provided to users of ATM systems whereby a cell is transmitted from a given connection on a regularly repeating time interval, perhaps one cell every couple of microseconds and another class of service is transmitted dependent on the video compression technique in use and

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the video image contents i.e., rate of video image change or frames per second clearly anticipate use of a continuously repeating sequence based on a sequence of memory access slot assignments as in claims 6, 21 and the step of selecting slot assignments based on detected conditions as in claims 10 and 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide for the use of an external controller for storing the programmable information entries into the table memory, writing the assignment configuration from the memory to an assignment configuration memory, the use of a continuously repeating sequence based on a sequence of memory access slot assignments, the step of selecting slot assignments based on detected conditions, the first memory being an EEPROM, the assignment table memory being a RAM, and being a group of registers as taught by Daniel et al. to the system of Pei et al. because Daniel et al. teach the desirable advantage of freeing the APU from doing repetitive data manipulation tasks, while these tasks are performed by one or more hardware-implemented coprocessors using memory mapped data structures and linked lists of data to increase speed for transmission and said increased speed for transmission being desirable to achieve more efficient system operation in Pei et al.

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Allowable Subject Matter

8. Claims 5, 7, 13-15, 20 and 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pillar et al. disclose an inter-class schedulers utilizing statistical priority guaranteed queuing and generic cell-rate algorithm priority guaranteed queuing.

10. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (2600 Receptionist at (703) 305-4750).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742. The examiner's regular work schedule is Monday to Friday from 8:00 am to 5:30 pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms, can be reached at (703) 305-4703.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

SH

August 29, 2002


DANGTON
PRIMARY EXAMINER

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.